SOME NEW BOOKS.

Pioneers of Science in America.

In a large octavo volume of some five hundred pages, the Messrs. Appleton have reprinted from the *Popular Science Monthly* fifty sketches of the lives of men, all or most of whose scientific work was done on this side of the Atlantic, within what are now the United States. When we observe that the series includes men like Guyot, who did not die until 1884, we are at a loss to understand the omission of Prof. Benjamin Peirce and Prof. Asa Gray, each of whom was a man of far more usefulness and distinction than were many of those who are here commemorated. This is, really, the only objection to be made to the book before us, which, in other respects, fills a place that needed filling, and is likely to be widely read. Among the especially interesting chapters are those allotted to Benjamin Franklin, David Rittenhouse, John James Audubon, William Cranch Bond, Samuel Finley Morse, John Ericsson, and Alexander Dallas Bache. In the present notice we shall confine ourselves to the two first mentioned, most of whose important work was done in colonial times.

I.

The sketch of Benjamin Franklin by W. H. Larrabee, which opens the volume, is averred by Dr. William Jay Youmans to be the first systematic account of what Franklin accomplished in science that has yet appeared. Without dwelling on the electrical experiments which first gave him renown, we may point out that there is hardly a subject of knowledge that is not touched upon and illuminated in Franklin's letters. We find in them observations concerning the prevailing views of life and death, as not showing sufficient understanding; a mode of rendering meat tender by electricity; supplies of saltpetre and gunpowder for the Revolutionary war, with a wish that pikes might be introduced, and bows and arrows, for the use of which six reasons are given; concerning Volta's experiments and the length of time for which the electric force may be kept in the Leyden vial; concerning true science and its progress; the discovery of the great use of trees in producing wholesome air; concerning a slow sensitive hygrometer, suggested by such incidents as the shrinking in America so as to be tight, and the swelling in Europe so as to afford ample room, of a mahogany magnet box and a telescope box; concerning the Indian languages; the antiquity of the mariner's compass; the route by which the Phœnicians came to America, if they did come; concerning Lavoisier's experiment of melting platinum in fine charcoal, blown upon by dephlogisticated air; concerning a comet seen in Gibraltar, data about which from Herschel are enclosed to Rittenhouse; the spots on the sun; the temperature of the water on the ocean; the civil service, with regard to which the theory is propounded that every place of honor should be made a place of burden, for "the malady of government consists in the enormous salaries, emoluments, and patronage of great offices;" concerning the logographic mode of printing; the thanks due to Lavoisier for his Nomenclature Chimique; a collection of songs and music of American composition, "the first of the kind that has appeared here;" concerning a remedy for moderate deafness, by putting the thumb and fingers behind the ear, pressing outward and enlarging it, as it were, by the hollow of the hand, which Franklin had tried with satisfaction; concerning Noah Webster's labors on the English language, with a plea for its purity and approval of a scheme for a reformed alphabet; an instrument for taking books down from shelves; the distillation of fresh from salt water, with a theory that the skin has imbibing as well as discharging pores, and that we might drink by sitting or lying in the water, even in salt water; concerning the discovery of an ancient sepulchre, perhaps of a Scythian King, on the frontiers of Russia; concerning improvements in navigation, of which Franklin had made careful studies during his long voyages across the ocean, and touching which he records observations respecting sails, cables, models, power at sea, the course of the Gulf Stream, precautions and general reflections on the subject; the evil effects of lead on the human system, to which, although they had been known for years, not much attention seems to have been paid; building houses with reference to safety against fire; the deluge as a possible result of the internal fluidity of the earth; the wonderful discoveries made by Herschel; and, finally, concerning the merits of the Greek and Latin languages for general instruction, the time spent in learning which, he thought, might be better employed in the education suitable for such a country as ours. The length of the time that dead bodies will retain infection after burial is discussed in one of Franklin's letters, and cases are cited of small-pox caught from bodies thirty years dead; of fever caught from an Egyptian mummy; of cold caught from a mummy of Teneriffe three hundred years old; and of fevers, resulting in fifteen funerals, contracted from the bodies of persons who had died of the plague a hundred years before. In his correspondence occurs more than one notice of the embryo of a steamboat which he introduced to the attention of Dr. Ingenhousz in 1788, speaking of it as a boat moved by a steam engine that "rows itself against the tide in the river, and it is apprehended that its construction may be so simplified and improved as to become generally useful." Again, Franklin observed that the convexity of glass in spectacles through which a man sees clearest at the proper distance for reading is not the best for greater distances, and for a long time he carried two pairs of spectacles, which he changed according to the use he wished to make of them. He finally hit upon a more convenient plan and had his glasses cut, and "half of each kind associated in the same circle," the upper semicircle of one kind and the lower of the other, so that he was able to wear the same spectacles constantly, having, as he said, "only to move my eyes up or down, as I want to see distinctly far or near, the proper glasses being always ready." Among his economical papers is one on the nature and necessity of a paper currency, in which the principles are declared that "money, as bullion, is valuable by so much labor as it costs to procure that bullion; money, as a currency, has an additional value by so much time and labor as it saves in the exchange of commodities." In a letter on customs duties he squarely accepts the principle of free trade and apologizes for the tariff imposed by the colonies on the ground of the necessity to raise money to pay their debt, and that by the most convenient means. "We are not ignorant," he wrote to M. de Veillard, "that the duties paid at the Custom House on the importation of foreign goods are finally reimbursed by the consumers, but we impose them as the easiest way of levying a tax from those consumers," and, to M. Dupont de Nemours, "you appear to be possessed of a truth which few governments are possessed of—that A must take some of B's produce, otherwise B will not be able to pay for what he will take of A." We add that the reprint of Franklin's scientific writings by Sparks includes sixty-three papers on electricity and one hundred and fifty-seven on philosophical subjects, filling eight hundred and eighty pages.

It is well known that Franklin was made a foreign associate in the French Academy of Sciences as early as 1772, and that, in France, he was esteemed, throughout his residence there, as one of the foremost men of the time. Memorable were the words employed by Mirabeau, when, on June 14, 1790, he announced Franklin's death in the French National Assembly: "The genius that gave freedom to America and shed torrents of light upon Europe is returned to the bosom of the divinity. The sage whom two worlds claimed, the man disputed by the history of the sciences and the history of empire, holds, undoubtedly, a most elevated rank among the human species." The orator added: "Antiquity would have reared altars to the mortal who, for the advantage of the human race, embracing both heaven and earth in his comprehensive hands, knew how to subdue thunder and tyranny. Enlightened and free, Europe owes at least its remembrance and its regret to one of the greatest men who has ever served the cause of philosophy and of liberty." Mirabeau's motion that the National Assembly wear mourning for three days was seconded by La Rochefoucauld and Lafayette and adopted by acclamation, and a letter of condolence was addressed to the Congress of the United States. It is well known that Franklin throughout his life avoided controversy in defence of his religious or philosophical opinions, believing that, if they were right, time and experience would vindicate them, and that, if wrong, they ought to be refuted and rejected. Although, as an American, and because of what he had done for the United States, he had a few enemies in England, and even at home, he was able in his last days to thank God that there were not in the whole world any who were his enemies as a man, for by His grace through a long life he had been enabled so to conduct himself that there did not exist a human being who could justly say "Ben Franklin has wronged me."

II.

David Rittenhouse, who was born near Germantown, Pa., in 1732, was descended from a family of paper makers residing at Arnheim in Guelderland. A member of this family, the great-grandfather of the scientist, came from Holland in 1687-88. He was the first Mennonite minister in Pennsylvania, and established the first paper mill in this country, on the spot where his great-grandson David was born. David was the third child of a family of ten children. When he was a few months old his father stopped making paper and went to farming at Norriton, about twenty miles from Philadelphia. David's early instruction was of a meagre sort, and he may be correctly termed a self-educated man. He was early put to work on the farm and he was ploughing at fourteen years of age. An uncle, dying, had left him a chest of tools and a few books on arithmetic and geography, with some manuscript mathematical calculations. These furnished attractive food to his mind, and his biographers tell of his having covered the handle of his plough and the fences around the field with his solutions of the problems which were thus set before him. As the uncle mentioned above, a Welshman by descent named Williams, was his mother's brother, it is inferred that he inherited his genius from his mother's side. His mechanical talent was shown in his construction of a complete water wheel in miniature when 8 years old, a wooden clock when 17, and a clock with metallic works at a later age. His father, it seems, was not disposed at first to favor the youth's tastes, but eventually he furnished him with money enough to buy a set of clock-making tools; thereupon David built a workshop at Norriton, where he carried on the clock-making business for several years. He, at the same time, pursued his studies so diligently that he impaired his constitution and contracted an internal disorder that afflicted him all his life. Astronomy was his favorite study, but he was also deeply interested in optics and mechanical science. It is noteworthy that he discovered independently the method of fluxions, of which, in his imperfect knowledge of what Newton and Leibnitz had done, he believed himself to be the originator, and he mastered an English translation of Newton's "Principia." In the development of his abilities, he owed a good deal to Thomas Barton, who married his sister, and who helped him to the books he needed, many of which were procured in Europe.

In 1763, at the age of 31, David Rittenhouse was employed to determine the initial point of the boundary line between Pennsylvania and Maryland, his particular duty being defined to be to ascertain and fix "the circle to be drawn at twelve miles' distance from Newcastle, Delaware, northward and westward, together with the beginning of the fortieth degree of north latitude." The work was an arduous one, and involved going through a number of tedious and intricate calculations. It was performed with instruments largely of Rittenhouse's own making and in a satisfactory manner, for which acknowledgment was made in the shape of extra compensation; his observations were accepted without change by the official astronomers, Mason and Dixon, when they took charge of the work. He was afterward appointed to a similar task in 1769 by the Commission to settle the boundary between New York and Pennsylvania. Among the subjects of his scientific studies at this period were the investigation of variations in the oscillations of the pendulum under changes of temperature, with the plan of a device for compensation and the construction of what he called a metalline thermometer. This instrument was so made, on the principle of the expansion and contraction of metals, under variations of temperature, so that the degrees of heat and cold were indicated by the movements of an index passing over a graduated semicircle. It was adapted in form and size to be carried in the pocket. Rittenhouse discussed the compressibility of water in the light of an experiment that had been reported to the Royal Society, and observed, in a letter to Mr. Barton, that although the experiment did not satisfy him he did not doubt the fact, for "if the particles of water were in actual contact it would be difficult to conceive how any body could much exceed it in specific gravity; yet we find that gold does, more than eighteen times." About this time (1767) he indulged in some speculations on the possibility of a man moving the world. Some one having published the result of calculations he had made respecting the fulfilment of the dictum of Archimedes on the subject, Rittenhouse gave the result of his own computation, which was that "the force wherewith a man acts when he lifts a weight of two hundred pounds, if applied without intermission for the space of one hundred and five years, is sufficient, without any machinery, to move the earth one inch in that time, and the earth must, from the velocity received by that force alone, continue forever after to move at the rate of one inch in fifty years." The first calculator had computed that twenty-seven billions of years would be required to accomplish the same movement.

It was, eventually, by his achievements in astronomy that Rittenhouse became best known in his own country and acquired celebrity, even in the Old World. A great extension was given to his fame by his construction of an orrery, or apparatus for illustrating the planetary motions, and by the conspicuous part which he took in the observations of the transit of Venus in 1769. The list of his contributions to the American Philosophical Society, of which, in 1790, he became the President, succeeding Benjamin Franklin, includes twenty-two titles of papers relating to his orrery; to the transits of Venus and Mercury; to the comets of 1770; to a method of deducing the times of the sun's passing the meridian; the difference of longitude between the observations at Norriton and Philadelphia; an explanation of an optical deception; experiments on magnetism; a remarkable meteor seen in 1779; a comet observed in 1784; a new method of placing the meridian mark; an optical problem; astronomical observations on the Georgium Sidus and a transit of Mercury; an account of several houses struck with lightning; another account of the effect of a stroke of lightning; several astronomical observations described in a single paper; a mathematical problem; a comet observed in 1793; the improvement of timekeepers; the expansion of wood by heat; a problem in logarithms; and the mode of determining the true place of a planet in an elliptical orbit; this was his last paper, read in February, 1796, a few months before his death. With these may be coupled his oration on astronomy, delivered before the American Philosophical Society in February, 1775, and inscribed "to the delegates of the thirteen united colonies." In this oration, three years before the announcement of Mayer's discovery of the proper motion of certain stars, and six years before Herschel's discovery of Uranus, the author put forth the suggestion that the fixed stars, and particularly the Milky Way, would afford fruitful fields of observation. On the whole, however, it must be said that Rittenhouse published but little; he was too much occupied with practical and patriotic work to give time to the composition of many speculative disquisitions. He was a member of the Committee of Safety at the outbreak of the Revolution, and became its presiding officer in November, 1776. In the same year he was a member of the Assembly from Philadelphia, and a member of the first Constitutional Convention of Pennsylvania; a member of the Board of War, and one of the Council of Safety which had absolute powers. He was the first State Treasurer of Pennsylvania, from 1777 to 1789, when he declined to serve any longer. He was the first Director of the United States Mint, serving for three years from 1792. Referring to these public employments, Thomas Jefferson, who was to succeed Rittenhouse as President of the American Philosophical Society, wrote to him in 1778 to protest against his wasting his abilities upon affairs of state. "I am satisfied," said Jefferson, "that there is an order of geniuses above the obligation to conduct governments, and, therefore, exempt from it. No one can conceive that nature ever intended to throw away a Newton upon the occupations of a Crown. It would have been a prodigality for which even the conduct of Providence might have been arraigned had he been by birth annexed to what was so far below him. I doubt not there are in your country many persons equal to the task of conducting government. But you should consider that the world has but one Rittenhouse, and that it never had one before." Writing after Rittenhouse's death, in refutation of the Abbé Reynal's assertion that America had "not produced one able mathematician, one man of genius in a single art or science," Jefferson observed: "We have supposed Mr. Rittenhouse second to no astronomer living, and that in genius he must be the first, because he is self-taught. As an artist he has exhibited as great a proof of mechanical genius as the world has ever produced. He has not, indeed, made a world, but he has, by imitation, approached nearer his Maker than any man who has lived from the creation to this day." The design of the orrery, which Jefferson obviously had in mind when he thus wrote, was described by the constructor himself, as follows: "I did not design a machine which should give the ignorant in astronomy a just view of the solar system, but one that rather should astonish the skilful and curious examiner by a most accurate correspondence between the situations and motions of our little representative of the heavenly bodies and the situations and motions of those bodies themselves. I would have my orrery really useful by making it capable of informing us, truly, with regard to astronomical phenomena for any particular point of time, which I do not find that any orrery yet made can do."

Curtis's Constitutional History of the United States.

All students of constitutional law are, or should be familiar with the book in which Mr. George Ticknor Curtis described the origin, formation, and adoption of the Constitution of the United States. This work, which was originally published in two volumes, was revised in 1889 and reissued in one volume, and it was at the same time announced that a second volume was in preparation, which would carry the history of the Constitution to the close of the civil war, and, indeed, throughout the changes which have followed it. The author did not live to fulfill entirely his intentions, but when he died, in March, 1894, he had completed a first draft of thirteen chapters, the last of which deals with the Presidential election of 1876, and with the Electoral Commission. Up to this point his researches had been finished and the substance of their results had been set forth. It is these thirteen chapters, of great value as regards the conclusions reached, but chargeable with some defects of style, owing to the author's inability to revise them, which have been edited by Mr. Joseph Culbertson Clayton and are now published in a large octavo volume by the Harpers. The importance of the treatise, considered as a contribution to constitutional history, can only be appreciated by one who inspects it carefully from end to end, but we can exemplify its usefulness by referring briefly to some of its most interesting features.

I.

In a preliminary chapter on the "history of opinion concerning the nature of the Constitution," Mr. Curtis points out that the right of secession, considered as a right implied in the Constitution, was not asserted in the time of nullification, although the theoretical principles of both doctrines were much alike. In the Southern States, however, at the end of thirty years thereafter, the belief in a constitutional right of secession from the Union had become so prevalent that, on the first apprehension of danger, whether well or ill founded, it could be acted upon in a time of great excitement. Now that such tendencies can be calmly analyzed, Mr. Curtis deems it of consequence to record that the doctrine of secession had no advocates when nullification was attempted in South Carolina, and especially that Mr. Calhoun himself did not uphold or propound it. The first fact to which attention is directed is that, when Mr. Hayne, in the debate of 1830, set up the right of nullification, he declared that the process of its exercise by a State was simply to arrest the execution within her own limits of an obnoxious act of Congress upon the ground of its being a violation of the Constitution, and to hold it in an inoperative condition until a convention of the States should have decided, by a two-thirds vote of the States, that it was constitutionally valid, or until, if the act was pronounced unconstitutional, the convention should have proposed to amend the Constitution as the exigencies required. This was the doctrine of Mr. Calhoun, and it was certainly consistent with an adherence to the Union by the State of South Carolina, which might have made this appeal to the body, a convention of the States, that he regarded as the tribunal paramount, in our system, to every other. The advocates of secession, in 1860-61, went beyond Mr. Calhoun, although they supposed themselves to be justified by his authority, because he had so strenuously upheld State rights thirty years before. Their deductions were drawn from some of his principles, but he himself would not have drawn those deductions. He left on record a full exposition of his own distinctions between nullification and secession. This exposition is quoted in full in the book before us, and we extract from it a remarkable and decisive passage. "I am aware," says Calhoun, "that there is a considerable and respectable portion of our States, with a very large portion of the Union, who are of the opinion that they (nullification and secession) are the same thing, differing only in name, and who, under that impression, denounce it (nullification) as the most dangerous of all doctrines; and yet, so far from being the same, they are, unless I am greatly deceived, not only perfectly distinguishable, but totally dissimilar in their nature, their object, and effect; and, so far from deserving the denunciation so properly belonging to the act with which it is confounded, it (nullification) is, in truth, the highest and most precious of all rights of the States, and essential to preserve that very union for the supposed effect of destroying which it is so bitterly anathematized. They (nullification and secession) are wholly dissimilar in their nature. Secession is the withdrawal from the Union, a throwing off of the authority of the Union itself, a separation from partners, and, as far as it depends on the member withdrawing, a dissolution of the partnership. It presupposes an association or union of several States or individuals for a common object. Nullification, on the contrary, presupposes the relation of principal and agent; the one granting a power to be executed, the other appointed by him with authority to execute it; and is simply a declaration on the part of the principal, made in due form, that an act of the agent transcending his power is null and void. The difference in their object is no less striking than in their nature. The object of secession is to free the withdrawing member from the obligation of the association or union. Its direct and immediate object, as it concerns the withdrawing member, is the dissolution of the association or union, as far as that member is concerned. On the contrary, the object of nullification is to confine the agent within the limits of his powers by arresting his acts transcending them, not with the view of destroying the delegated or trust power, but to preserve it, by compelling the agent to fulfil the object for which the agency or trust was created, and it (nullification) is applicable only to cases where the trust, or delegated powers, are transcended on the part of the agent. It remains now to show that their effect is as dissimilar as their nature or object. Nullification leaves the members of the association or union in the condition where it finds them, subject to all its burdens and entitled to all its advantages, the member nullifying being comprehended as well as the others; its object is not to destroy, but to preserve, as has been stated. Secession, on the contrary, destroys, as far as the withdrawing member is concerned, the association or union. Such are clearly the differences between them, differences so marked that, instead of being identical, as is supposed, they form a contrast in all the aspects in which they can be regarded."

II.

In the same chapter Mr. Curtis examines the vexed question whether the famous Virginia and Kentucky resolutions of 1798 did or did not mean to assert a reserved right of the States to withdraw, in whole or in part, temporarily or finally, the powers granted by the Constitution to the Federal Government. It has been supposed by some that they did mean to assert such rights, and hence arose, in former times, a want of discrimination as to the meaning of the word "delegated" when applied to the powers granted by the Constitution, it being maintained in certain quarters that the word itself implied a right of revocation or withdrawal, as a principal may revoke or withdraw the powers of an agent. This interpretation of the word was repudiated by Madison himself, the author of the Virginia Resolutions of '98. Writing in 1833 to Mr. Rives, he says: "The conduct of South Carolina has called forth not only the question of nullification, but the more formidable one of secession. It is asked whether a State, by resuming the sovereign form in which it entered the Union, may not have the right to withdraw from it at will. As this is a simple question, whether a State, more than an individual, has a right to violate its engagements, it would seem that it might be safely left to answer itself. But the countenance given to the claim shows that it cannot be so lightly dismissed. The natural feelings which laudably attach the people composing a State to its authority and importance are at present too much excited by the unnatural feelings with which they have been inspired against their brethren of other States, not to expose the people of South Carolina to the danger of being misled into erroneous views of the nature of the Union and the interest they have in it. One thing, at least, seems to be too clear to be questioned—that while a State remains within the Union it cannot withdraw its citizens from the operation of the Constitution and laws of the Union. In the event of an actual secession without consent of the co-States, the course to be pursued by these involves a question painful to discuss. God grant that the menacing phenomena, which obtruded it, may not be followed by positive occurrences requiring the more painful task of deciding it." By a collection of quotations Mr. Curtis shows that Madison's explanation of the meaning of the Virginia resolutions is vindicated by the light thrown by the *Federalist* on the meaning attached to the term "delegated" by those who used it. It is made clear by these quotations from the *Federalist* that the term was used in the sense of "conveyed," "ceded," or "alienated." Corroborative evidence is found in the fact that Patrick Henry, the most powerful adversary of the Constitution at the time when it came before the people of Virginia for adoption, made no ingenious and wire-drawn comments on the word "delegated." He interpreted the word precisely as the *Federalist* had; for he contended that the powers which it was proposed to vest in the Federal Government were powers of full sovereignty. His main objection to the instrument was that these powers would be alienated by the States without the indispensible check of a Bill of Rights, so formed as to protect the rights of States and individuals. In a word, Patrick Henry held, as did the friends of the Constitution, that if Virginia should ratify that instrument as it came from the hands of the Philadelphia Convention, she would irrevocably cede a part of her sovereign right to govern.

We occasionally hear denounced that provision of the Constitution whereby the smallest State and the largest State are represented by precisely the same number of delegates in the upper House of Congress. Upon this subject Mr. Curtis makes the following judicious remarks: "The value of the equality of State representation in the Senate cannot be too highly estimated, for, without it, there could scarcely have been any efficient check upon the centripetal tendency of so powerful a Government as that which the Constitution created. The practice of making party determinations the rule of action in both branches of the legislative body has somewhat tended to impair the principle which the equality of representation in the Senate was intended to preserve; and it would have effectually destroyed the reserved remnant of State sovereignty if one and the same principle of representation had been applied to both houses. But, notwithstanding this practice, it is at all times in the power of the States to emancipate their Senators, if they will, from the dominion of party, and thus to save the efficiency of this check upon dangerous encroachments on the reserved rights of State sovereignty." Whether the States should be suffered to retain forever their equal representation in the Senate is usually considered a purely academic question, for the reason that the Constitution expressly excludes this matter from the operation of constitutional amendments by the clause declaring that no State shall be deprived of its equal representation in the Senate without its own consent, which, of course, would never be given. It is probable, however, that a means might be found of flanking or surmounting this seemingly insuperable obstacle, and that, too, without invoking a constitutional amendment, which, as we have seen, would be inapplicable. Upon this point no suggestion is offered by Mr. Curtis.

III.

We pass to what the author of this history has to say regarding the Presidential election of 1876 and the Electoral Commission by which the result of the election was determined. Whether Samuel J. Tilden or Rutherford B. Hayes was, as a matter of fact, elected President of the United States is a question which does not fall within the scope of a constitutional inquiry. It is really a question of less consequence than the one considered in the thirteenth chapter of this volume. The all-important question, the one that will concern the people of the United States as long as their present form of government shall endure, is whether the *process* by which Mr. Hayes was declared to have been elected, was conducted according to the Constitution. Before proceeding to review Mr. Curtis's reasoning in some detail, we may at once state his conclusion, which is that, owing to the procedure which was resorted to, it never can be said that Mr. Hayes became President *de jure*, although he became President *de facto*. In the author's opinion, therefore, "the people of the United States will always have reason to regard this (the process by which Mr. Hayes was seated) as the most unfortunate occurrence in the history of their Government, unless the conduct of the Supreme Court of the United States in regard to the question of legal-tender money be entitled to that bad preëminence."

Mr. Curtis begins by quoting the constitutional provisions relating to the choice of a President and a Vice-President which were in force in the year 1876. These provisions are contained in Article II. and Article XII. of the Constitution, and from these the following inferences are drawn by the author of this book: First, that "counting" means more than a bare arithmetical enumeration; that it is a quasi-judicial function, the discharge of which requires the ascertainment of the lawful right to act as Presidential electors that is claimed by or for the persons who appear upon the "certificates" to have so acted, and whose votes are to be included in the count, or excluded therefrom, according to the certificates in each case, when, judged by all the proofs which should be taken into consideration, it is shown that the person giving electoral votes had or had not a lawful right to give them. This function, judicial in its nature, is to be performed by the Senate and the House of Representatives in the presence of each other, after the President of the Senate has, in their presence, opened all the certificates. The Constitution uses the phrase "lists of all persons voted for" and the term "certificates," but both of these descriptions refer to the same official paper, which is to be examined in the discharge of the function of counting the electoral votes that purport to have been cast for a President and a Vice-President respectively. This function is to be performed by a body made up of the Senate and the House of Representatives, assembled together for the purpose. This assembly, which Mr. Curtis denominates "the Presidential Convention," has no other function to perform except that of counting the electoral vote. It has no legislative power, although it may adopt rules for the proper and orderly conduct of its own proceedings. Continuing his analysis of the constitutional provisions, Mr. Curtis notes that the electors are required to meet in their respective States to vote by ballot for President and Vice-President, naming in their ballots the person voted for as President, and, in distinct ballots, the person voted for as Vice-President. They are to make distinct lists of all persons voted for as President and of all persons voted for as Vice-President, and of the number of votes for each, which lists they are to sign and certify and transmit sealed to the seat of the Government of the United States, directed to the President of the Senate. Thus, it appears both that the electors are officers clothed with the authority of casting the electoral votes of the people of their respective States, and also that they are to certify the votes so cast by them.

Such is the construction which the constitutional provisions bear upon their face. Now let us see what interpretation has been put upon them in practice. On the first election of George Washington to the Presidency all the counting necessary was a simple enumeration of the votes given for the respective persons as they appeared on the face of the certificates, which were in no instance disputed or questioned. There was no objection to the performance of this enumerating function by the presiding officer of the Senate. When the next occasion arose for counting the electoral votes, namely, on the second election of Washington to the Presidency, the proceedings were somewhat altered. On this occasion the Senate proposed that a joint committee be appointed to ascertain a mode of examining the vote for President and Vice-President, and of notifying the persons who should be elected of their election, and for regulating the time, place, and manner of administering the oath of office to the President. The House concurred in this proposal, and the joint committee reported that "tellers" be appointed on the part of each House: thereupon, on Feb. 13, 1793, the two Houses assembled, the certificates of the electors of the fifteen States in the Union, which had come by express, were, by the Vice-President, opened, read, and delivered to the tellers appointed for the purpose, who, having examined and ascertained the votes, presented a list of them to the Vice-President, which list, having been read to the two Houses, the Vice-President declared that George Washington had been unanimously elected President, and that John Adams had been elected, by a plurality of votes, Vice-President. After this proceeding, the Vice-President delivered the duplicate certificates from the electors of the several States, received by post, to the Secretary of the Senate, and the two Houses then separated. From this second precedent, it appears that the two Houses, which then comprised many members of the Convention that had framed the Constitution, did not, even in a case where there were no disputed certificates, regard it as a duty of the Vice-President to "count" the electoral votes; that, on the contrary, they appointed tellers who, on behalf of the two Houses, were to perform the function, judicial in its nature, of acertaining and declaring to each House the result of the election; and thus the proceeding at this early period became impressed with a character which it retained down to the year 1876.

It is pointed out by Mr. Curtis that before this second precedent was made, namely, on March 1, 1792, Congress had passed an act which made it the duty of the executive authority of each State to cause three lists of the names of the electors of the State to be made and certified and to be delivered to the electors before the first Wednesday in December, and the electors were required to annex one of the lists to each of the lists of their votes. The act also prescribed how the lists should be transmitted to the seat of government; but the only provision that it made respecting the opening and counting of the votes was that "on the second Wednesday in February succeeding every meeting of the electors the certificates shall be opened, the votes counted, and the persons who are to fill the offices of President and Vice-President shall be ascertained and declared, agreeably to the Constitution." This law, which was enacted, as we have said, before the second precedent occurred, left it to each joint assembly of the two Houses to ascertain and declare the persons who had been chosen, in such manner as they might see fit, and as would be in accordance with the Constitution. On Dec. 12, 1803, Congress proposed the Twelfth Amendment of the Constitution, changing the original provisions so as to require the Presidential electors to name in their ballots the person voted for as President, and, in distinct ballots, the person voted for as Vice-President. This amendment, which was declared to have been adopted in 1804, repeated an already existing provision of the Constitution in the following words: "The President of the Senate shall, in the presence of the Senate and House of Representatives, open all the certificates, and the votes shall then be counted." We should next observe that, on March 27, 1804, Congress passed an act supplementary to the act of 1792, the supplemental legislation being rendered necessary in consequence of the proposal of the Twelfth Amendment of the Constitution. This new act did not change the formal law in respect to the counting of the electoral votes, or displace the former precedent. Eventually the two acts were embodied in the Revised Statutes. It appears, then, that the legislators of the fifteen years immediately following the organization of the Government under the Constitution devised a method of proceeding which would admit, in any case where a certificate was disputed, of an investigation into the rights of the person who had acted as elector to act in that capacity. If nothing but a bare enumeration of the votes returned by the certificates was required, the tellers would so report to the joint assembly of the two Houses; but, if it appeared that any certificate was disputed, the tellers would so report, and the two Houses would thereupon investigate the facts in the presence of each other, and would act upon them according to the result of the investigation.

IV.

On the occasion of the first election of Madison to the Presidency there occurred an interesting incident, which is thus recounted in the Annals of Congress: "The time for counting the votes having arrived, the members of the Senate entered the Representatives' chamber, and its President pro tempore took the Speaker's chair, the members of the Senate taking their seats on the right hand of the Chair. The tellers were ranged in front, and the clerks of each House on the right and left of the tellers. The President of the Senate then opened the electoral returns, one copy of which was handed to the teller of the Senate, who read it, the tellers of the House comparing the duplicate returns handed to them. When this business, which occupied about two hours, was concluded, the tellers handed their report to the President of the Convention, who was proceeding to read it, when Mr. Hillhouse observed that the return from one of the States appeared to be defective, the Governor's certificate not being attached to it. He thought that this might be as proper a time to notice it as any. Nothing further being said on the subject, however (either because the validity of the certificate was not disputed or because the majority for Madison and Clinton was overwhelming), the President of the Senate read the statement of the votes as reported by the tellers." Long, therefore, before the year 1876 it had come to be both written and unwritten law that the counting of the electoral votes should be performed by a process that would bring before the two Houses, assembled in joint meeting, the right to act as electors of the persons who appeared in the certificates to have so acted. It resulted from the nature of the proceeding, as settled by the precedents, that, when there were no conflicting certificates, "counting" was simply an arithmetical enumeration; but that, when a question should be raised as to which set of two or more rival sets of electors was the lawful one, the two Houses must determine it. It also resulted, in Mr. Curtis's opinion, from the Constitution, from the legislation and the precedents, that the function of counting the electoral vote cannot be vested by Congress in any other body or be devolved upon any other body than the two Houses assembled in joint meeting. The author of this book submits that the act of Congress, passed Jan. 29, 1877, under which the Electoral Commission was constituted, must be tried by this test. If that act devolved on another body than the two Houses, the duty and power of deciding who had been elected President, or took from the two Houses the determination of any question arising on the certificates, it was an unconstitutional law, and the process by which Mr. Hayes was declared to have been elected was not conducted in accordance with the Constitution. The fact that the process was assented to by both of the political parties of the time can add nothing to its constitutional validity.

It is true that political parties have come to be regarded by us as indispensable, but they are not recognized by the Constitution. It is, therefore, very questionable whether the political parties existing at a given time should be recognized in legislation which is to prescribe how such a constitutional function as that of counting the electoral votes for a President and a Vice-President is to be performed. The reason assigned in 1876-77 for constituting the Electoral Commission was, of course, that each of the two parties in Congress, one of which controlled the Senate, while the other controlled the House, had a fixed determination to bring about a declaration that its own candidates had been chosen. There was, however, a preponderant belief that the Democrats had succeeded in the election. It was shared by Mr. Hayes himself, the Republican candidate for the Presidency; by Gen. Grant, who was then President of the United States; by Senator Conkling, and by many other eminent Republicans. The steps that were taken to change this belief are described by Mr. Curtis at some length. We will here note only that Mr. W. E. Chandler, when he reached New York, after midnight of Nov. 7, 1876, could only figure out for Hayes 166 electoral votes; the whole number of electoral votes then cast in the Union being 369, of which 185 were necessary for a choice. It appeared that the Democrats claimed, as absolutely certain, only 184 votes; but it was probable, and was believed that they had obtained 185. The Republicans being sure of only 166 votes, required nineteen more to make a majority. These nineteen votes had to come from Florida, Louisiana, and South Carolina, and it was notorious that a majority of each of the returning boards of Florida, Louisiana, Oregon, and South Carolina were composed of men open to corrupt or partisan influences. Mr. Chandler immediately conceived and put into operation a bold plan. It was to deny, on the morning of Nov. 8, that a majority of Tilden electors had been chosen, and to take instant measures to secure the nineteen necessary Republican votes from Florida, Louisiana, and South Carolina, or as many of them as possible. Without describing the means taken for the purpose, we need only say that all parts of the plan were carried out as its author had devised them. It was absolutely known, by the evening of Thursday, Nov. 8, that the people of Florida and Louisiana had chosen Democratic electors. Consequently, the will of the people had to be disregarded; and the result determined by constitutional methods at the polls had to be reversed. In Louisiana the machinery provided by an alien and wholly irresponsible Government was susceptible of abuse for this iniquitous purpose. The election law, enacted in defiance of the State Constitution, to enable a few scoundrels to continue their corrupt and detestable rule, prescribed certain methods by which the people might be disfranchised. Unless, however, these prescribed methods were strictly observed, the Returning Board could not legally reject a single vote which had been certified by the election officers. But the Returning Board was composed of desperate men, who scrupled at nothing, provided they were protected and assured of adequate reward. In Florida the situation was altogether different. There the Board of State Canvassers was not vested with discretionary powers. Ministerial powers alone were devolved upon them by the statutes. To canvass the returns received from the returning officers and formally to announce the results was the extent of their powers. The larger part of the Florida Board of Canvassers were Republicans, but while no one supposed them to be strong men, they were not regarded as dishonest.

V.

While measures were being taken to secure from Florida, Louisiana, and South Carolina returns favorable to the Republican candidates, Congress was discussing the bill creating the Electoral Commission, which became a law on Jan. 29, 1877. From the act, which is quoted in full by Mr. Curtis, it is apparent that, without any warrant for it in the Constitution, Congress undertook to establish a special tribunal, to whose judgment and decisions might be referred all disputed questions arising on the certificates of the electoral vote given at the last preceding election for President and Vice-President in any State. A singular device was resorted to in order to make the decisions of the Commission practically final. It was provided that each decision of the Commission should be read and entered in the journal of each House, and that the counting of the votes should proceed in conformity therewith, unless, upon objection made thereto in writing by at least five Senators and five members of the House of Representatives, the two Houses should separately concur in ordering otherwise, in which case, such concurrent order must govern. If this process for counting the electoral votes be compared with that provided in the Constitution, and in the acts of Congress of March 1, 1792 and March 26, 1804, it will be seen at once that the intervention of a special tribunal which was to count the electoral votes and to make decisions which should come before the two Houses in the manner provided in the act of Jan. 29, 1877, was anomalous and unconstitutional.

Mr. Curtis deems it one of the strangest occurences in political history that the leading men of the Democratic party, who claimed that their candidate had been elected, should have consented to a process of determining the result of the election which could, by no proper interpretation of the Constitution, be considered as within its provisions. They were, it is true, influenced by a fear that a civil war might ensue unless a method of deciding the contest should be adopted that would command general acquiescence. It was, no doubt, a patriotic anxiety that led them to concur in the Electoral Commission. But Mr. Curtis, for his part, is convinced that, if the House of Representatives, in which the Democratic party had a clear majority, had firmly insisted that the electoral votes should be "counted" by the two Houses—to the term "counted" being given all the signification that belonged to it—whatever the result might have been, no public commotion would have followed. The people of the United States had always accepted peacefully the outcome of a Presidential election when ascertained in the constitutional mode, however keen might have been the disappointment of one of the political parties. It is true that in 1876-77 the composition of the two Houses was such that the Senate would have inevitably declared that Mr. Hayes was elected, and the House would just as certainly have announced that Mr. Tilden was elected. This is apparent from the fact that every test question which arose in the two Houses was decided by a strict party vote. If, then, the two Houses had proceeded to count the electoral votes as the Constitution required, there would have been no choice of a President and Vice-President, officially and constitutionally declared by them. But Mr. Curtis points out that, in the cases in which there were contested returns of the electoral votes of any State, a judicial proceeding by *quo warranto* could have been instituted by which it could have been judicially determined which set of the rival claimants had the lawful right to cast the electoral vote of that State. There was ample time for this between the assembling of Congress in December, 1876, and the 4th of March, 1877, so that there would have been no vacancy or interregnum in the office of Chief Magistrate. It is submitted that a judicial proceeding for this purpose, instituted in some inferior court of the United States and carried up for final determination by the Supreme Court of the United States, would have been far more likely to command the confidence of the whole country than the Electoral Commission, composed as that body was. If there was no existing provision of law by which the Supreme Court of the United States could take appellate jurisdiction of such a proceeding by *quo warranto*, a short act of Congress could have been passed for the purpose. To detail, on the other hand, five of the Justices of that court to sit in a tribunal, in which they would act in their personal and not in their judicial character, was an ill-judged and, as it proved, an unfortunate step. It placed five of the members of the highest judicial tribunal in the country in positions where they would be exposed to criticism of their acts, and where the public would not discriminate between their personal and their official character, but the Supreme Court itself would suffer in the public estimation. This ought to have been foreseen and avoided; for it was plain beforehand that such would be the consequence of making five of the members of the Supreme Court also members of such a tribunal as the Electoral Commission, whereby were cast upon them duties and functions which they were to perform not in their judicial, but in their personal character. On the shameless partisanship and grotesque inconsistencies of the decisions reached by the Electoral Commission Mr. Curtis does not omit to dwell, but the iniquitous use to which were put the unconstitutional powers of the Commission is scarcely a subject which properly falls within the scope of this history. It was sufficient to demonstrate that, for the establishment of the Commission and the devolution upon it of powers belonging to Congress assembled in joint session, there was absolutely no warrant in the Constitution.

Among the other important topics discussed in the book before us are the revenue laws of the United States, the legislation relating to a national bank, the acquisition of Louisiana, Florida, and parts of Mexico, the admission of Texas, the Missouri Compromise and its repeal, the Dred Scott case, and the reconstruction legislation. The author also intended to examine, in subsequent chapters, had he lived, the constitutional warrant for the suspension of habeas corpus during the civil war and for the proclamation of emancipation. He purposed also to review the impeachment of President Johnson and the judicial construction of the Thirteenth, Fourteenth, and Fifteenth Amendments. The volume, therefore, as we have it, falls materially short of what Mr. Curtis meant to make it; but, however curtailed, it will be found of permanent and exceptional, we might even say of unique, value.

M. W. H.

A TALE OF CHEAP MONEY.

France Tried the Bryan Plan in 1790, with Terrible Result.

From the Illustrated American.

I have been asked to tell the story of cheap money in France.

The reason is its curious similarity to the promises made by Mr. Bryan. For "France" read "America," and this tale seems to belong to 1896 rather than 1790-1796.

In 1789 times were terrible in France. There was both an enormous public debt and deficit. There was no credit. Capital had retired and was hoarded. Business stood still.

Men began to mutter that cheaper money was needed.

The trouble, they claimed, was a too small circulating medium. "Give us more money. Give us good, sound paper money." Nearly all the leading Revolutionists said this. Even Mirabeau supported it.

If ever there was a good plan for cheap money, they had it. It was as follows:

France had just confiscated the entire estates of the Church. This wealth, accumulated for 1,300 years, was 4,000,000,000 francs, one-third the wealth of the nation. It yielded a yearly income of 200,000,000 francs.

The statesmen wished to sell all this real estate to the people, both in order to attach the people to the revolution and to get money for the State.

So they proposed to issue mortgage notes, called assignats, of 400,000,000 francs against this land, bearing interest at three per cent.

Could any paper money be better? The value of the land ten times greater than the assignats, and the interest certain to retire them soon.

True, wise men opposed it. Necker, the greatest financier of that century and a true patriot, nearly lost his life in showing its folly.

But oratory was all in its favor. The favorite argument was the patriotic sentiment, "France can afford to stand alone and teach all Europe a lesson."

The bold Revolutionary leaders who had upset absolutism were like blacksmiths at watch-mending when they tried their heads at finance.

The 400,000,000 assignats were, however, but a beginning. There had been many warnings that they would only open the way for a deluge of paper money. So a law had been passed limiting the issue.

But in a few months things were as bad as ever, and 800,000,000 more were issued in 1790.

The legal limit had been reached. But more "circulating medium" was still called for. Prices were high, yet wages were low. More money would help. So the limit law was evaded, and in 1791 600,000,000 more were issued.

The nation was now inebriated with its cheap money. With each new issue there were good times for a few weeks; then came harder times and the call for more assignats. It was like a drunkard after each drink. The faster the new issues came, the shorter was the good feeling.

Now bad signs appeared.

(1) Assignats dropped ten per cent. Statesmen tried to mend this by an address to the people showing how wrong this was.

(2) Specie began to disappear. This was charged to British influence and to the greed of goldbug bankers. It was urged that a few might be hung for an example. The real reason gold disappeared was that assignats could be used and gold was more valuable.

(3) Prosperity stopped altogether. At first manufacturers had been stimulated, then the markets were suddenly glutted, then factories shut down. The nerve of production was cut. The statesmen put up tariffs. But the collapse went on.

(4) Uncertainty as to the future value of the assignat checked all investment and excited stock gambling. Business dwindled to living from hand to mouth. Everybody was speculating. Louis Blanc says: "Commerce was dead; gambling took its place." Money went to the cities: the farmers no longer saw money.

(5) A vast debtor class arose. It was to their interest to have the currency depreciate still more so they could pay their debts easier. They clamored for "more money."

In December, 1791, 300,000,000 more assignats were issued, making thus far 2,100,000,000.

Now a new kind of financial theory was heard. "Depreciated currency," said the blatherskite orators, "is a blessing. It keeps France from buying foreign articles. It keeps all our interests at home. Give us more money."

So in April, 1792, 300,000,000 more were issued.

The security had improved, for the estates of the emigrant nobility were confiscated by the nation.

Yet the assignats went lower still, down to thirty below par. Finally, payment was suspended to public creditors for all amounts over 10,000 francs. This was the first step of repudiation.

Then capital indeed locked itself up. All that saved multitudes of men from starving was being drafted into the army to be shot.

More "circulating medium" was evidently needed, and in July, 1792, 300,000,000 more assignats were issued.

Prices were now enormous, but wages did not rise at all.

In 1793 the mob began to plunder shops. After 200 Paris stores had been gutted they bought off the mob with 7,000,000 francs. But the market women, who could not pay the exorbitant price for soap, agreed that a "law should be framed to make paper money as good as gold."

Such laws were passed, regulating prices, but the only result was that merchants would not sell, and farmers would not bring in their produce.

More starved than were killed by the enemy in the war.

It seemed necessary to have more of the "people's money;" and new issues were made, until in 1796, over forty-five billions of the wretched things had been issued.

Meantime the gold *louis d'or* remained just the same. It bought just as much in 1796 as in 1790. But Sept. 1, 1795, this 25-franc gold piece was worth 920 francs of the "people's money," Dec. 1 it was worth 3,050 francs, and Feb. 1, 1796 it was worth 7,200 francs.

To check this depreciation it was made a crime punishable by twenty years in chains to give more than the face value for gold.

Then the gold was hid.

Meantime, who suffered? Not the rich nor the shrewd. There were plenty of methods by which they commanded money and spent it in prodigality.

The sufferers were the laboring people.

Before 1796 the paper money was nearly all in their hands. The rich had unloaded. When the crash of repudiation came, and in July, 1796, the Government had to admit that its paper was all worthless, this worthless money was held almost entirely by those of the smallest means.

On the laboring man and woman came the crushing weight of the final loss.

The lesson is plain. Natural law does not go out of its way for orators. "Cheap money" always leads to cheaper money. More and more depreciation follows. When the crash comes the poor are ground to the earth.

Montgomery P. Robbins.